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9 October 1964

MEMORANDUM FOR THE RECORD

SUBJECT: Trip Report - [REDACTED]

[REDACTED] "Change
Detector"

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1. This trip was made to complete the in-plant pre-shipment inspection of the "Change Detector". The Detector was approved for shipment on 23 September and [REDACTED]

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[REDACTED] were told to take the action necessary to ship the Detector to us, in care of their Washington representative, [REDACTED]

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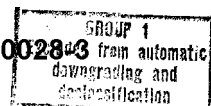
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2. Because most of the numerical data in the contract are design objectives instead of specifications, it was not possible to make the inspection on the basis of meeting certain fixed numerical requirements. The pre-shipment inspection was therefore made to establish [REDACTED] success in approaching the desired objectives. In this respect [REDACTED] has produced an acceptable product. A summary of the design objectives and the actual results follows:

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Item	Objectives	Results
a. Film Transport: Fast	125 ft/min.	129 ft/min
Slow	0.15 in/sec	0.22 in/sec
b. Electronic Magnification:		
Fixed	4.0 times	3.9 times
Variable	40.0 times	52.1 times
c. Scale Control Range (either side of the median position):	2:1	1.64:1
d. Attitude Correction: Tip	+ 5.°	+ 5.°
Tilt*	+ 5.°	+ 4.°
e. Resolution, lines/mm **	50.	32.
f. Frame Counters, error in frames per 250 foot roll:		
2 1/4" frames	+ 5.	less than + 2
5.5" or longer frames	+ 1.	less than + 1

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g. Correlation: [REDACTED] set up two images with a small amount of "X", "Y", "Scale" and "Rotation" differences between the images. When placed in the "Automatic Correlation" mode the Detector correlated the images. There was a small residual error in the "X" direction which was due to misalignment of the correlation mirror. This can be corrected, but is a time-consuming task. [REDACTED] would rather do the final "tuning" after the Detector arrives at the Center because the vibration received during the trip may cause some misalignment of the Detector. 25X1A

3. The shipment will be delayed a few more days due partially to the malfunction of a component and partially to a [REDACTED] requirement that thorough photographic coverage be made of the Detector. They will give us two sets of all still photographs. 25X1A

Notes: *Because there is no conventional method of designating attitude deviations as "plus" or "minus", the terms are purely relative. The right film channel, which can be rotated in what would be considered the "tip" direction, can rotate one degree less in one direction than the other because of the location of one of the film drive motors. This is due to the changes we requested in the film magazines after most of the Detector had been designed and fabricated.

**The design objective of 50 lines per millimeter has not been met and probably will not be met. The two factors that have caused this are:

- (1) the left film "sees" the CRT raster at a decided angle (about 15 degrees) and the Detector therefore uses the off-axis resolution of the left-film lens rather than the better, on-axis, resolution; and
- (2) the flying spot scanner CRT focus coil is not at the optimum location on the neck of the CRT. The focus coil has been displaced to allow installation of the image rotation coils. [REDACTED] will try to remove some of the CRT focus coil housing to provide space for a more optimum location. The 32 lines per millimeter were attained on the left channel which is the worst. 25X1A

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3. paragraph continued:

a. The shipping costs are not part of the contract and must be billed separately. The [REDACTED] transportation personnel have estimated that the cost for sole use of a moving van will be [REDACTED]. A moving van will probably be used because it will provide a softer ride for the Detector with less possibility of damage. A special "air-ride" tractor trailer combination was considered but could not be used because a minimum load of about 30,000 pounds is needed to properly operate the "air-ride" device. The amount of insurance was also discussed but the undersigned advised [REDACTED] that this was a problem for the [REDACTED] contract and transportation departments in terms of what could be recovered in the event of a claim. [REDACTED] will discuss this with the appropriate [REDACTED] personnel.

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b. The Detector probably will be shipped in one piece because it will be easier to properly protect it during shipment. This should not present any insurmountable problems for us. Upon arrival in [REDACTED] the Detector will be rolled, on its own wheels, along the first floor corridors to Room 1S 460, the equipment checkout room.

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c. [REDACTED] expect to arrive in Washington the evening of Sunday, 4 October, and will be at this building on Monday morning to start the "uncrating" and to perform the final "tune-up". This will require five working days. During this period it is expected that only P&DS personnel will be admitted to the checkout room.

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[REDACTED]
Development Branch, P&DS

Distribution:

- ✓ Orig. : Contract File DB/P&DS
- 1 : for Routing thru DB
- 1 : LB/SS/NPIC
- 1 : [REDACTED] SS
- 1 : CB/PD/OL
- 1 : Chrono/DB/NPIC

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